

Usage Model

User's Guide and Form



Joint Data Acquisition Network Standards

JDANS

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0. INTRODUCTION

0.1 IDENTIFICATION

The Joint Data Acquisition Network Standards (JDANS) Project is a Tri-Service program tasked with specifying, identifying, and testing a suite of open network based Test & Evaluation (T&E) standards for test vehicle data acquisition networks. JDANS is under the auspices of the Naval Air Warfare Center – Aircraft Division (NAWCAD) Test Article Preparation (TAP) department (5.4.5).

OSD direction for JDANS is documented in Test Package Directive number 01-N-5-42-0100 dated 6 July 2001, Program Element 0604940D, Function Area: Common Range Instrumentation, Project Number: 5-42-N.

0.2 PURPOSE

This document describes the Usage Model Form for JDANS. The Usage Model Form is a format for recording requirements for JDANS. The Usage Model Form is a Microsoft Word 2000 document containing replaceable fields and open text areas. Each field or text area will be described in this document.

It is a project requirement that all JDANS requirements be recorded using the Usage Model Form or in the JDANS requirements document.

0.3 OVERVIEW

The Usage Model Form is organized into five sections as follows:

- Basic Info
- Programmatic
- Scope
- Other Info
- Key Functionality

The Usage Model is a tool for capturing and documenting high-level requirements from various prospective users of JDANS. Low-level requirements for each Usage Model will be documented in a Profile, which will be addressed in a separate document.

0.4 REFERENCED DOCUMENTS

- Project Management Plan (PMP) for Joint Data Acquisition Network Standards (JDANS), 20 May 2002, JDANS.10.01, Sid Jones, JDANS Project Director
- Test Capability Requirements Document (TCRD) for Joint Data Acquisition Network Standards (JDANS), 15 April 2002, JDANS.10.02, Sid Jones, JDANS Project Director
- Life Cycle Support Plan (LCSP) for Joint Data Acquisition Network Standards (JDANS), 30 May 2002, JDANS.10.03, Sid Jones, JDANS Project Director

- OMG Unified Modeling Language Specification, Version 1.3, June 1999, Copyright © 1997, 1998, 1999 Object Management Group, Inc., et. Al..

0.5 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

JDANS	Joint Data Acquisition Network Standards
LCSP	Life Cycle Support Plan
NAWCAD	Naval Air Warfare Center – Aircraft Division
OMG	Object Management Group
OSD	Office of the Secretary of Defense
PMP	Project Management Plan
T&E	Test & Evaluation
TAP	Test Article Preparation
TCRD	Test Capabilities Requirements Document
UML	Unified Modeling Language

1. DETAILED DESCRIPTION

The Usage Model Form is the file-level document unit. The document will be stand-alone; it will not be part of another document. Links between related documents are permitted.

One Usage Model document will be created to describe one Usage Model.

There are two types of entry areas in the form: replaceable fields and text areas.

- To replace a replaceable field with data, select the field (typically by clicking it with the mouse) and begin typing the data. The field will disappear and the data will be entered. All form entry is accomplished in this manner except Sections 1.3.1 through 1.3.11 and Section 1.5.2.
- Sections 1.3.1 through 1.3.11 and Section 1.5.2 are tables of items that are intended to be checked off if applicable to the Usage Model. Beside each option is an empty table cell. Place the cursor in the empty cell and type an "X". For each entry, an empty block indicates "No" or "N/A"; an X'd, checked, or non-empty block indicates "Yes" or "Applies".

Note: Tables and table cells that contain text other than replaceable fields are not to be edited. This text belongs to the form itself.

1.1 JDANS USAGE MODEL BASIC INFORMATION

This section contains information that identifies and describes the Usage Model.

1.1.1 Usage Model Name

This is a required element.

The unique name of this Usage Model. This name should be descriptive but brief using nouns and verbs (e.g. "??TBD??"). This text should not exceed 127 characters.

1.1.2 Mission Model/Application model

This is a required element.

Indicate whether this is a "Mission Model" or an "Application Model".

A "Mission Model" describes a mission on a test vehicle (e.g. Carrier Suitability or Weapons Release).

An "Application Model" describes a needed capability for the data acquisition network (e.g. Simultaneous Sampling or Event Driven Data).

1.1.3 Customer

This is an optional element.

The name of the organization from which this Usage Model is created. This is a brief or abbreviated designation.

1.1.4 Other Usage Models Referred To

This is an optional element.

A list of the names of Usage Models referenced by this Usage Model.

1.1.5 Key Words

This is an optional element.

A list of nouns and/or verbs that could be used as selection criteria for categorizing this Usage Model. An example use for key words could be locating this Usage Model with a search engine.

1.1.6 Background

This is an optional element.

This is an executive summary of the background of the mission, application, and/or customer related to this Usage Model. It is intended to provide context for the model and/or familiarize users of the model with its origins.

1.1.7 Usage Model Overview

This is a required element.

Provide an executive summary of the purpose of the mission or application described by this Usage Model. Enough detail is necessary for a user of this model to understand “Why” the model exists.

1.2 PROGRAMMATICS

This section contains information relating to the program (i.e. customer) supporting the need for this Usage Model. Points of Contact (POCs), related documentation, and program-unique issues are captured here.

1.2.1 Project Lead

This is a required element.

Enter the name, telephone number, email address, and mailing address of the Project Lead.

1.2.2 Technical Lead

This is an optional element.

Enter the name, telephone number, email address, and mailing address of the Technical Lead.

1.2.3 Test Plan

At least one of these documents is required: either the Test Plan, Measurand List, or Task Description.

Enter dates for the following milestones, if applicable:

- Draft Completed
- Final Completed
- Requested Start Date
- Projected End Date

1.2.4 Measurand List

At least one of these documents is required: either the Test Plan, Measurand List, or Task Description.

Enter dates for the following milestones, if applicable:

- Draft Completed
- Final Completed
- Requested Start Date
- Projected End Date

1.2.5 Test Report

This is an optional element.

Enter dates for the following milestones, if applicable:

- Draft Completed
- Final Completed
- Requested Start Date
- Projected End Date

1.2.6 Task Description

At least one of these documents is required: either the Test Plan, Measurand List, or Task Description.

Enter dates for the following milestones, if applicable:

- Draft Completed
- Final Completed
- Requested Start Date
- Projected End Date

1.2.7 Special Equipment Required

This is an optional element.

List any special equipment required by this Usage Model. Include a brief description and the Type/Model/Series specification, if applicable.

1.2.8 Unique Government Requirements

This is an optional element.

List any unique requirements placed on this Usage Case by the Government. An example may be that certain test points be flown in a test matrix.

1.2.9 Unique Contractor Requirements

This is an optional element.

List any unique requirements placed on this Usage Case by the contract. An example may be that the contractor requires test data be processed and presented in a certain format.

1.2.10 Unique Vendor Requirements

This is an optional element.

List any unique requirements placed on this Usage Case by the vendor. An example may be that the vendor fulfills a test requirement through a unusual set of hardware.

1.3 SCOPE

This section contains information that indicates various attributes of the Usage Model. These attributes are generally unrelated and cover such diverse areas as customer affiliation, geographic location, and instrumentation considerations. For each entry, an empty block indicates "No" or "N/A"; a checked or non-empty block indicates "Yes" or "Applies".

1.3.1 Customer

These are optional elements.

Within the scope of this Usage Model, check all entries applicable to the customer(s).

1.3.2 Mission Area

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to applicable mission area(s).

1.3.3 System Under Test

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to applicable vehicle(s) under test.

1.3.4 Test Resources

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to applicable test resource(s) that are users of the test data, either real-time or non real-time.

1.3.5 Sites Involved

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to involved site(s).

1.3.6 Ground Systems

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to ground system(s) used to transmit data to (a) remote site(s).

1.3.7 Major C4ISR Systems

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to major C4ISR system(s).

1.3.8 Significant Aspects

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to significant aspect(s) affecting the Usage Model.

1.3.9 Range Resources

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to range resource(s).

1.3.10 Other Major Range Systems

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to other major range system(s).

1.3.11 Data Description

These are optional elements.

Within the scope of this Usage Model, check all entries corresponding to data description(s).

1.4 OTHER RELEVANT INFORMATION AS REQUIRED

This section contains miscellaneous relevant information pertaining to the Usage Model from the customer's point of view. Each item is individually and uniquely numbered for traceability.

Note: To add more rows to this table for additional information, copy/paste an existing row or simply press the Tab key from the bottom, right cell to add a blank row. When adding a blank row, fill in the cells appropriately.

1.5 KEY INTERFACE FUNCTIONALITY

This section contains miscellaneous relevant information pertaining to the Usage Model from the JDANS point of view. This worksheet is completed by JDANS staff only as it is for recording issues and information pertinent to the JDANS staff. Usage Model considerations that are JDANS specific are recorded here.

1.5.1 What is unique about this Usage Model (from a network based perspective)

This is a required element.

Document the characteristics of this Usage Model that set it apart from other Usage Models. Note: if there is no entry to be made then this Usage Model is a duplicate.

Also, describe in detail any and all issues brought forth by this Usage Model that affect the JDANS environment or technology, especially if the issues are unique to this Usage Model.

1.5.2 JDANS Interface Services

This is a required element.

For each of the JDANS Functionality / Service Groups listed, indicate whether it is required for the mission or application defined for this Usage Model. For each entry, an empty block indicates "No" or "N/A"; a checked or non-empty block indicates "Yes" or "Applies".

Note: Each of the three subsections (Software Services, Data Services, and Network Services) has a row for adding "Other" services not previously documented as part of the form. To add an entry for an "Other" service, first copy/paste the existing "Other" row in place as to insert a duplicate row adjacent to the existing row. Then edit the previous "Other" row as necessary, leaving a blank "Other" row as the last row of the subsection. Repeat this process to add as many "Other" rows as desired.

2. SAMPLE USAGE MODEL

NOTE: The Figures in this section represent a fictitious sample Usage Model to aid the user in filling in the Usage Model Form. Do not consider the content of this sample as legitimate or true data. Do not use reproductions of these Figures as forms.

[The sample is TBD. This is a placeholder for the sample.]

The image displays five sample JDANS Usage Model forms, each representing a different section of the model. The forms are arranged in two rows. The top row contains three forms, and the bottom row contains two. Each form has a header with the title 'JDANS Usage Model Form' and a version number 'JDANS 11.02a'. The forms are as follows:

- Form 1 (Top Left):** Titled 'JDANS USAGE MODEL'. It contains sections for '1.1 JDANS USAGE MODEL BASIC INFORMATION' and '1.2 PROGRAMMATIC'. It includes various sub-sections and checkboxes for data entry.
- Form 2 (Top Middle):** Titled 'JDANS USAGE MODEL'. It contains sections for '1.3 EQUIPMENT' and '1.4 SUPPORT'. It includes various sub-sections and checkboxes for data entry.
- Form 3 (Top Right):** Titled 'JDANS USAGE MODEL'. It contains sections for '1.5 SUPPORT' and '1.6 SUPPORT'. It includes various sub-sections and checkboxes for data entry.
- Form 4 (Bottom Left):** Titled '1.4 OTHER RELEVANT INFORMATION AS REQUIRED'. It includes a table for 'Other Relevant Information' with columns for 'Name', 'Date', and 'Comments'.
- Form 5 (Bottom Right):** Titled '1.5 KEY INTERFACE FUNCTIONALITY (to be completed by JDANS Personnel Only)'. It includes a table for 'Key Interface Functionality' with columns for 'Name', 'Date', and 'Comments'.

3. USAGE MODEL FORM

NOTE: The remainder of this document, beginning with the next page, is the Usage Model Form. The Form may be printed out and completed manually. The Form may be completed electronically right in this document. The Form may be saved as a separate document.

This Form is also available on the Internet from the JDANS web site at <http://jdans.navair.navy.mil/>.

JDANS USAGE MODEL

1.1 JDANS USAGE MODEL BASIC INFORMATION (** = REQUIRED)

- 1.1.1 Usage Model Name** [\[Click here and type name\]](#)
- 1.1.2 Mission Model / Application Model** [\[Click here and type Mission or Application\]](#)
- 1.1.3 Customer [\[Click here and type customer\]](#)
- 1.1.4 Other Usage Models Referred To [\[Click here and list all other models\]](#)
- 1.1.5 Key Words [\[Click here and list all key words\]](#)
- 1.1.6 Background
[\[Click here and type background\]](#)
- 1.1.7 Usage Model Overview**
[\[Click here and type overview\]](#)

1.2 PROGRAMMATICS (** = REQUIRED)

1.2.1 Project Lead**

Name [Click/type name]	Telephone Number [Click/type phone]	Email Address [Click/type email]	Mailing Address [Click/type address]
---	--	---	---

1.2.2 Technical Lead

Name [Click/type name]	Telephone Number [Click/type phone]	Email Address [Click/type email]	Mailing Address [Click/type address]
---	--	---	---

1.2.3 Test Plan

At least one of these documents is required: either the Test Plan, Measurand List, or Task Description.

Date Draft Completed

[Click/type draft date]

Date Final Completed

[Click/type final date]

Requested Start Date

[Click/type start date]

Projected End Date

[Click/type end date]

1.2.4 Measurand List

At least one of these documents is required: either the Test Plan, Measurand List, or Task Description.

Date Draft Completed

[Click/type draft date]

Date Final Completed

[Click/type final date]

Requested Start Date

[Click/type start date]

Projected End Date

[Click/type end date]

1.2.5 Test Report

Date Draft Completed

[Click/type draft date]

Date Final Completed

[Click/type final date]

Requested Start Date

[Click/type start date]

Projected End Date

[Click/type end date]

1.2.6 Task Description

At least one of these documents is required: either the Test Plan, Measurand List, or Task Description.

Date Draft Completed

[Click/type draft date]

Date Final Completed

[Click/type final date]

Requested Start Date

[Click/type start date]

Projected End Date

[Click/type end date]

1.2.7 Special Equipment Required

[Click **here** and list all special equipment required]

1.2.8 Unique Government Requirements

[Click **here** and list unique government requirements]

1.2.9 Unique Contractor Requirements

[Click **here** and list unique contractor requirements]

1.2.10 Unique Vendor Requirements

[Click **here** and list unique vendor requirements]

1.3.1 Customer	
Army	
Navy	
Air Force	
Marine	
DoD Agency	
Non-DoD Agency	
Vendor	
Multi-Service	
Coalition	
Other	

1.3.2 Mission Area	
Land	
Sea	
Air	
Space	
C4ISR	
Littoral	
Electronic Warfare	
Information Warfare	
Nuclear, Biological, Chemical	
Operations Other Than War	
Special Operations	
Other	

1.3.3 System Under Test	
Aircraft	
Armament Munitions	
Armored Electronic Systems	
Armored Vehicle	
Avionics (Non-EW/Comm)	
Communications/Computers	
Electronic Warfare Systems	
Ground System	
Helicopter	
Missile	
Sensor	
Ship	
Shipboard Systems	
Submarine	
Surveillance/Reconnaissance	
UAV	
Other	

1.3.4 Test Resources	
Digital Modeling and Simulation	
Measurement Facility	
Systems Integration Lab	
Hardware in the Loop	
Installed Systems Test Facility	
Open Air Range	
Other	

1.3.5 Sites Involved	
29 Palms	
30th SW Western Range, Vandenberg AFB	
45th SW Eastern Range, Patrick AFB	
Aberdeen Test Center (ATC)	
Air Armament Center (AAC), Eglin AFB	
AF Flight Test Ctr (AFFTC), Edwards AFB	
Arnold Engineering Devmnt Ctr (AEDC)	
Atlantic Undersea T&E Complex (AUTEC)	
Camp Pendleton	
CTSF - Ft. Hood	
Dugway Proving Ground (DPG)	
Electronic Proving Ground (EPG)	
Fallon NAS	
Ft. Hood	
Ft. Rucker	
High Energy Laser Sys Test Fac. (HELSTF)	
Jet Propulsion Lab (JPL)	
NASA-Dryden	
National Training Center (NTC), Ft. Irwin	
NAWC-AD, Pax River	
NAWC-WD, China Lake	
NAWC-WD, Point Mugu	
Nevada Test & Training Range, Nellis AFB	
Pacific Missile Range Facility (PMRF)	
Redstone Technical Test Center (RTTC)	
SCORE	
Shallow Water Training Range (SWTR)	
SIMAF - Wright-Patterson AFB	
SPAWAR - San Diego	
Utah Test & Tmg Range (UTTR), Hill AFB	
VA CAPES	
White Sands Missile Range (WSMR)	
Yuma Proving Ground (YPG)	
Other	

1.3.6 Ground Systems	
DREN	
TI	
DS3	
Microwave	
SATCOM	
FDDI	
ATM	
ISDN	
KG-94	
INES	
KIV-7	
FASTLANE	
Other	

1.3.7 Major C4ISR Systems	
JTIDS / Link-16 / TADIL-J	
GCCS	
CEC	
Link-11	
AFATDS	
FAADS	
ASAS	
AGGS	
AGCCS	
Other	

1.3.8 Significant Aspects	
High Profile Mission Area Support	
Acquisition Program Support	
Joint Forces Support	
Interoperability Test Support	
Multi-Range Operations	
Test & Training Resource Integration	
Live & Simulation Integration	
System Under Test Stimulation	
Large-Scale / Long Endurance Ops	
TENA Object Model Evaluation	
Tools Evaluation	
SBA / STEP / SMART	
Defense Res. & Eng. Net (DREN)	
High Level Architecture (HLA)	
HPC Incorporation	
Other	

1.3.9 Range Resources	
Range Control Center Systems	
Display System	
Data Processing Sys (Data Fusors)	
Range Control Station	
Drone Control System	
Other	
Field Instrumentation	
TSPI Source	
Timing Source	
Range GPS	
Radar System	
Telemetry System	
Range Command/Destruct System	
Optics System	
Other	
Environment	
Coordinate Systems	
Terrain Database	
Multi-Spectral Database	
Weather Effects	
Other	
Gateways	
Range Control Center Gateway	
Facility Gateway	
Sensor System Gateway	
Stimulator System Gateway	
Other	

1.3.10 Other Major Range Systems	
BFTT	
JTCTS	
TRACS	
Other	

1.3.11 Data Description	
TSPI	
Timing	
Telemetry	
Voice	
Video	
Event Flags	
Control Commands	
Other	

1.4 OTHER RELEVANT INFORMATION AS REQUIRED

Note #	Note Comment
1	[Click here and enter the other relevant information]
[Click/Next #]	[Click here and enter the other relevant information]
[Click/Next #]	[Click here and enter the other relevant information]

1.5 KEY INTERFACE FUNCTIONALITY (TO BE COMPLETED BY JDANS PERSONNEL ONLY) (** = REQUIRED)

1.5.1 What is unique about this Usage Model (from a network based perspective) **

[Click **here** and describe uniqueness of Usage Model]

1.5.2 JDANS Functionality / Service Groups**	Required for Mission or Application**
Software Services:	
Built in Interoperability/Management and Configuration for Vendor Device Drivers	
Query Nodes for Configuration and /or Calibration Information	
Provide Interface to Allow Format Change During Flight	
Multi-Protocol Management	
Built-in Diagnostics & Stimulation of Instrumentation	
Built-in Simulation of Test Instrumentation	
Rapid Reconfiguration of Data System Software/Hardware between Flights	
Other Software Service: [Click here and type other software service]	
Data Services:	
Remote Monitoring of Real-Time Test Data	
Transferring Data Files to Remote Location	
Transferring Calibration Files to Remote Location	
TMATS Compatibility	
Provide Interface for Event Driven Data	
Provide Interface for Simultaneous Sampling	
Provide Interface for On-Board Processing of Parameters/Information	
Other Data Service: [Click here and type other data service]	
Network Services:	
Extreme Time Correlation (<100 nanosec.)	
High BW Recorder Interface	
High BW Telemetry Interface	
High Speed Bus (>1 Gbps)	
Low Speed Bus	
Classified Data/Security Requirement	
Other Network Service: [Click here and type other network service]	